

## REMARKS

Claims 3-7 and 17-20 are pending in this application after entry of this amendment. Claims 3 and 7 are amended as discussed below. Claims 17- 20 are added. Support for new claims 17-20 can be found on page 10, line 28, through page 11, line 6.

### Specification

The specification has been amended to update the claim to priority.

### 35 U.S.C. §112, second paragraph

Claims 3-7 were rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 was rejected for use of the phrase “high stringency conditions” for hybridization of the claimed nucleic acids. Claim 3 has been amended to specify that the high stringency conditions are washes at 0.1XSSC at 65°C for 2 hours. Support for this amendment can be found on page 10, line 36, through page 11, line 2.

Claim 3 was also rejected, along with claim 4, for being vague and confusing. Claim 3 has been amended to recite a recombinant nucleic acid comprising a nucleic acid sequence that hybridizes to a nucleic acid having a sequence selected from the group consisting of the sequences, or complement of the sequences, shown in SEQ ID NOS: 8, 10, 12, 14 and 16, under the high stringency conditions of washes at 0.1XSSC at 65°C for 2 hours. Thus, the claim is directed to hybridization of both a sense and antisense strand. The amendment was made for clarity and finds support on page 10, line 36, through page 11, line 2 and page 11, line 41, through page 12, line 2.

Claim 4 has been amended to be in independent form and to recite a recombinant nucleic acid comprising DNA having a sequence identical to a nucleic acid sequence selected from the group consisting of SEQ ID NOS: 8, 10, 12, 14, and 16.

Amended claims 3 and 4 are in compliance with 35 U.S.C. §112, second paragraph. Applicant respectfully requests withdrawal of the rejection.

Claim 7 was rejected as being vague and indefinite because it recites a method for producing any *Haemophilus* penetration and adhesion protein. Claim 7 has been amended to depend from claim 5, thus incorporating the limitations present in claim 5. Claim 5 recites an expression vector comprising transcriptional and translational regulatory nucleic acid operably linked to the nucleic acid of claim 3 or 4 encoding an *Haemophilus* adhesion and penetration protein. Claim 3 and 4 recite recombinant nucleic acids that will hybridize to or are identical to nucleic acid sequences shown in SEQ ID NOs: 8, 10, 12, 14, and 16. Thus, claim 7 is now directed to specific *Haemophilus* proteins and is not vague or indefinite. Accordingly, Applicant requests withdrawal of this rejection.

### **35 U.S.C. §102**

Claims 3 and 5-7 were rejected under 35 U.S.C. 102 as being anticipated by 1) Falkow et al (WO96/05858), 2) Adams et al (WO 96/33276), 3) St. Geme et al (Mol Bio 1994), and 4) Fleischmann et al (Science 1995). As indicated by the Examiner, the highest “local similarity” is 86.8% with an “overall similarity” of 76.6%. As discussed above claim 3 has been amended to incorporate specific hybridization conditions. It is submitted that these conditions would not result in the hybridization of the nucleic acids set forth in the cited references with any of the nucleic acids having the sequences set forth in SEQ ID NOs: 8, 10, 12, 14 and 16 under the specified hybridization condition.

For the reasons set forth above, claim 3 is novel over the cited art. Additionally, as noted by the Examiner, claim 4 is free from the art. Accordingly, claim 5, dependent on claim 3 and 4 is novel over the cited art. Similarly, claims 6 and 7, which depend from claim 5, are novel over the cited art. Applicant requests withdrawal of the rejection.

New claim 17 has been added to claim recombinant nucleic acids encoding an *Haemophilus* adhesion and penetration protein comprising DNA having a nucleic acid sequence at least 80% identical to a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 8, 10, 12, 14, and 16. Similarly, new claims 18-20 respectively recite nucleic acids with 90%, 95%, and 98%

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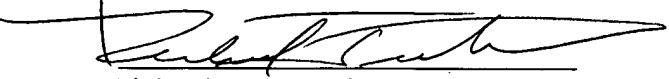
identity to the recited sequences. The new claims are novel because they recite a higher overall percent identity than is found in Falkow et al, Adams et al, St. Geme et al, or Fleischmann et al.

Applicants respectfully submit that the claims are in condition for allowance and an early notification of such is solicited.

Please direct any calls in connection with this application to the undersigned at (415) 781-1989.

Respectfully submitted,  
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